

WHAT IS CLAIMED IS:

1. A fingerprint detection apparatus, comprising:
a liquid source containing a solution which upon vaporization and contact with a surface to be inspected can provide an image of a fingerprint;
5 a flow passage in fluid communication with the liquid source;
a valve operable to control flow of liquid from the liquid source to the flow passage;
a heater arranged to heat the solution in the flow passage into a gaseous state; and
an optional switch operable to activate the valve and the heater such that solution flowing through the flow passage is vaporized and directed outwardly from the apparatus.
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2. The fingerprint detection apparatus of Claim 1, wherein the flow passage comprises a capillary tube having a maximum diameter of 0.01 to 10 mm.
- 15 3. The fingerprint detection apparatus of Claim 2, wherein the capillary tube comprises a metal tube and the heater comprises a section of the capillary tube which is heated by resistance heating thereof.
- 20 4. The fingerprint detection apparatus of Claim 1, wherein the apparatus includes a receptacle receiving the liquid source and the liquid source is a replaceable cartridge.
5. The fingerprint detection apparatus of Claim 1, wherein the apparatus includes the switch and a power supply, the switch being operable to open the valve and connect the power supply to the heater.
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6. The fingerprint detection apparatus of Claim 1, wherein liquid source includes a spring biased plunger operable to force liquid out of the liquid source.
- 30 7. The fingerprint detection apparatus of Claim 1, wherein the heater comprises a layer of resistance heating material located along the flow passage.

8. The fingerprint detection apparatus of Claim 5, wherein the power supply comprises at least one battery and a voltage regulator, the voltage regulator being operable to supply a selected voltage to the heater.

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9. The fingerprint detection apparatus of Claim 1, wherein the solution comprises a cyanoacrylate solution.

10. A method of using the fingerprint detection apparatus of Claim 1, comprising flowing the solution through the flow passage while heating the flow passage with the heater, forming a vapor by vaporizing the solution, and directing the vapor onto a surface to be inspected.

15 11. The method of Claim 10, wherein the solution comprises a cyanoacrylate solution.

12. The method of Claim 11, wherein the cyanoacrylate solution comprises a mixture of cyanoacrylate monomer and a solvent.

20 13. The method of Claim 12, wherein the cyanoacrylate solution comprises 1 to 20% by volume of the cyanoacrylate monomer.

14. The method of Claim 10, further comprising pressing the switch to open the valve and activate the heater.

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15. The method of Claim 10, further comprising replacing the liquid source with a replaceable cartridge containing a cyanoacrylate solution.

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16. The method of Claim 10, wherein the solution is supplied to the flow passage by pressurizing the liquid source.

17. The method of Claim 10, further comprising forming an image of a latent fingerprint by reacting the vapor with organic compounds of the fingerprint.

5 18. The method of Claim 10, wherein the solution includes a soluble fluorescent dye and the method includes generating a fluorescent vapor which is directed at the surface to be inspected.

10 19. The method of Claim 10, wherein the apparatus is a portable hand held apparatus and the method includes holding the apparatus in a user's hand while directing the vapor at the surface to be inspected.

15 20. The method of Claim 10, wherein the flow passage is a capillary sized passage having a maximum width of 0.01 to 10 mm or transverse area of 8×10^{-5} to 80 mm^2 .